

WHAT IS CLAIMED IS:

1. A high pressure fuel supply pump comprising:  
a housing provided with a through-hole having a step;  
a plunger slidably accommodated and reciprocatingly movable in the through-hole extending from an axial end thereof to the step;

an intake valve member positioned in the through-hole on an axially opposite side to the plunger with respect to the step and in contact with the step so that a pump chamber is formed between the plunger and the intake valve member, the intake valve member being provided with an intake check valve through which fuel is supplied to the pump chamber when the plunger moves in an opposite direction to the step;

a discharge valve member positioned in the through-hole on an axially opposite side to the plunger with respect to the intake valve member and in contact with the intake valve member, the discharge valve member being provided with a discharge check valve through which fuel is discharged from the pump chamber when the plunger moves toward the step; and

a plug screw fastened into an inner wall of the through-hole on another axial end thereof so as to axially push both of the discharge valve member and the intake valve member against the step so that the intake valve member and the discharge valve member are rigidly fixed in the through-hole.

2. A high pressure fuel supply pump according to claim

1, wherein the housing is provided with an intake port communicating with the through-hole, a ring shaped intake conduit is formed between an inner circumference of the through-hole and an outer circumference of the intake valve member, and the intake valve member is provided in an interior thereof with an intake passage in which the intake check valve is installed, whose one end is opened to the pump chamber and whose another end communicates with the intake port via the ring shaped intake conduit.

3. A high pressure fuel supply pump according to claim 2, wherein the discharge valve member is provided in an interior thereof with a discharge passage in which the discharge check valve is installed and the intake valve member is provided in an interior thereof with a discharge conduit which is formed separately from the intake passage, whose one end is opened to the pump chamber and whose another end communicates with one end of the discharge passage.

4. A high pressure fuel supply pump according to claim 3, wherein the plug is provided on an axis thereof with an axially penetrating discharge port communicating with another end of the discharge passage.

5. A high pressure fuel supply pump according to claim 1, wherein the intake valve member and the discharge valve member are positioned coaxially with the plunger.

6. A high pressure fuel supply pump comprising:  
a housing provided with a cylinder;  
a plunger slidably accommodated and reciprocatingly  
movable in the cylinder;

a valve member attached to the housing at a position  
axially opposed to the plunger so that a pump chamber is formed  
between the plunger and the valve member, the valve member  
being provided with an intake check valve through which fuel  
is supplied to the pump chamber when the plunger moves in a  
direction away from the valve member and a discharge check  
valve through which fuel is discharged from the pump chamber  
when the plunger moves toward the valve member,

wherein the intake check valve and the discharge check  
valve are positioned substantially in a column shaped region  
defined by axially casting a reflection of an axial end surface  
of the plunger on a side of the pump chamber.

7. A high pressure fuel supply pump according to claim  
6, wherein the housing has a through-hole having a step, the  
through-hole on an axial end side of the step constituting  
the cylinder, the valve member is accommodated in the  
through-hole on a side axially opposite to the plunger with  
respect to the step.

8. A high pressure fuel supply pump according to claim  
7, further comprising:

a plug screw fastened into an inner wall of the through-hole on another axial end thereof so as to axially push valve member against the step so that the valve member is rigidly fixed in the through-hole.

9. A high pressure fuel supply pump according to claim 8, wherein the valve member comprises an intake valve member in which the intake check valve is provided and which is in contact with the step and a discharge valve member in which the discharge check valve is provided and which is positioned on an axially opposite side to the plunger with respect to the intake valve member and in contact with the intake valve member.